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22. *ECTEINASCIDIA SLUITERI* HERDMAN (PEROPHORIDAE), A NEW RECORD OF A COLONIAL ASCIDIAN (PROCHORDATA) TO INDIAN WATERS

(With one text-figure)

A colonial ascidian, *Ecteinascidia sluiteri* Herdman 1906 is reported for the first time from Ervadi coast of Tamil Nadu, India. So far only 4 species of the genus *Ecteinascidia* are reported from India (Das 1938; Renganathan 1984, 1986; Renganathan and Krishnaswamy 1985). Of these, *Ecteinascidia bombayensis* was reported from the west coast, whereas the other three species, *Ecteinascidia garstangi*, *E. imperfecta*, *E. krishnani* were from the east coast. The specimen studied has been deposited in the National Collections of the Zoological Survey of India, Chennai (AS. 16).

Ecteinascidia sluiteri Herdman 1906

Occurrence and distribution: A few individuals of a damaged colony attached to calcareous stones were collected from the littoral zone of the Ervadi coast (9° 11' N; 78° 43' E). This species has been previously reported from Sri Lanka (Herdman 1906), Palau Islands (Tokioaka 1950), Singapore (Millar 1975) and Australia (Kott 1985).

Synonymy: *Ecteinascidia sluiteri* Herdman, 1906, p. 300. Tokioaka, 1950, p. 126. Millar, 1975, p. 267. Kott, 1985, p. 98.

Taxonomy: Class: Ascidiacea, Order: Enterogona, Suborder: Phlebobranchia, Family: Perophoridae, Genus: *Ecteinascidia*, Species: *sluiteri*.

Description: The colony consists of upright zooids, 0.7 x 0.3 cm, attached by a short stalk from the posteroventral corner of the body to a common basal mat of stolons. Branchial aperture terminal and atrial aperture subterminal. Both apertures on very low, conical siphons and have inconspicuous lobes. Test transparent, firm, naked. Zooids are pale green in life, but become colourless in preservative.

The body wall is thin, delicate, vascularised, and the arrangement of muscles is peculiar, in that the transverse muscles are short and grouped to form three longitudinal bands (one mid-dorsal and two lateral). On the left side, the band does not extend beyond the gut loop. Circular and longitudinal muscles are present

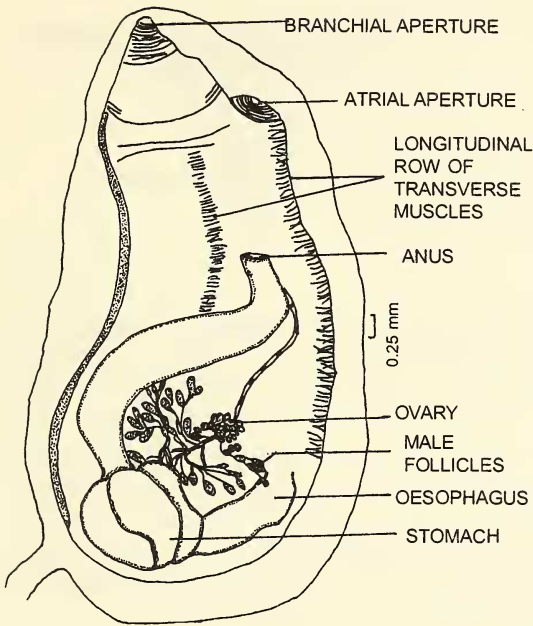


Fig. 1: *Ecteinascidia sluiteri* Zooid from left side showing gut loop, gonads and musculature

anus has a smooth border and lies near the 8th transverse vessel. Gonads are present in the gut loop. The male follicles are pear-shaped, arranged behind the small rounded ovary. No larva was observed (Fig. 1).

Ecteinascidia species are distinguished by the position of the apertures, body musculature, gut loop, and arrangement of gonads. The present species differs from those species of *Ecteinascidia* which have already been reported from India in the presence of three groups of longitudinal muscle bands rather than a continuous band as is present in the latter. The Indian specimen agrees well with the description of *Ecteinascidia sluiteri* from Sri Lanka, Singapore, Palau Islands and Australia in almost all characters, but differs from the Australian specimens in having only 14 rows of stigma rather than 22, as reported by Kott (1985).

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23. ADDITIONAL NOTES ON A HIMALAYAN SATYRID *DALLACHA HYAGRIVA* (MOORE) FAMILY SATYRIDAE, LEPIDOPTERA

(With five text-figures)

The type species *hyagriva* Moore of the monotypic genus *Dallacha* Moore (Smith, 1993; Varshney, 1994) has been reported earlier under the genus *Erebia* Dalman by Bingham (1905), Evans (1932), Talbot (1947), Wynter-Blyth (1957) and Mani (1986). Its distribution has been recorded from various Himalayan localities, such as Darjeeling, Kulu, Mussoorie, Simla and Kumaon (Marshall and de Niceville, 1883; Mackinnon and de Niceville, 1897; Evans, 1932; Wynter-Blyth, 1940; Talbot, 1947). Marshall and de Niceville (loc. cit.) have also stated that "*hyagriva* Moore was originally described from Darjeeling, but we have only as yet received it from the Western Himalayas, where it does not appear to be common." During the present survey, we could collect it from certain new localities, such as Kumarsain (2 males, 1 female, 8.ix.1992), Taklech, Rampur (1 female, 12.ix.1992), and Chowai (1 male, 13.ix.1992) in the Western Himalaya. An illustrated account of the male and female genitalia is given below in order to facilitate diagnosis.

Brown Argus *Dallacha hyagriva* (Moore)
Moore, 1857, in Horsfield & Moore,
Cat., Lep. Inds. E. India Co. 1: 236.

Male genitalia: (Figs 1-4): Uncus longer than tegumen, curved ventrally, distal end sharply pointed; brachia more than half the length of uncus, finely pointed distally; tegumen

broad; appendices angulares moderately long with distal end narrow; vinculum longer than tegumen; saccus short, tubular, rounded; valva broader in the middle, costa distinct with a smaller costal process, sacculus long and narrow, distal end concave, the latter beset with eight dorsal spines present near distal end; aedeagus long and broad, curved in the middle, subzone smaller than suprazone, ductus entering dorsad.

Female genitalia: (Fig. 5) Corpus bursae globular, membranous; signa paired and moderately long, represented by parallel scobinate patches, lying longitudinally in the posterior half of corpus bursae; ductus bursae shorter than corpus bursae, membranous; lamella antevaginalis with rectangular, plate-like, conspicuous central process, below which another slightly longer process, the latter lateral, broad, flap-like membranous; lamella postvaginalis inconspicuous; apophyses anterioris missing, apophyses posterioris reduced; papilla analis elongated, pilose.

Length of forewing Male: 21.0 mm

Female: 25.0 mm

The present study shows that the male genitalia of the type species *hyagriva* Moore of the genus *Dallacha* Moore are different from the type species *Erebia ligea* Linn. and *Ypthima huebneri* Kirby of the genera *Erebia* Dalman and *Ypthima* Huebner respectively (Warren, 1930, 1936; Rose and Sharma, 1999) under which it has earlier been synonymised by Talbot (1947) and Bingham (1905)